Intergovernmental Panel on Climate Change (IPCC)

Climate change is a very complex issue; policymakers need an objective source of information about the causes of climate change, its potential environmental and socio-economic consequences, and the adaptation and mitigation options to respond to it. The IPCC was established by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) in 1988 to provide an authoritative statement of scientific opinion on climate change.

The main activity of the IPCC is to prepare comprehensive assessment reports (AR) about climate change at regular intervals, typically of about five to seven years. IPCC reports are prepared by international experts selected to serve as Lead Authors on three Working Groups (WG). The first assessment report (AR1) was completed in 1990. The IPCC completed AR5 reports I, II, and III by April 2014 (full AR5 summary report due in October 2014). NOAA (including NMFS) scientists are involved in preparing these IPCC reports.

Definition of Climate Change: Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Member Nations

It is open to all member countries of WMO and UNEP.

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Description

The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. It was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts. In the same year, the UN General Assembly endorsed the action by WMO and UNEP in jointly establishing the IPCC.

The IPCC is a scientific body under the auspices of the United Nations (UN). It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change. It does not conduct any research nor does it monitor climate related data or parameters.

Thousands of scientists from all over the world contribute to the work of the IPCC on a voluntary basis. Review is an essential part of the IPCC process, to ensure an objective and complete assessment of current information. IPCC aims to reflect a range of views and expertise. The Secretariat coordinates all the IPCC work and liaises with Governments. It is supported by WMO and UNEP and hosted at WMO headquarters in Geneva.

The IPCC is an intergovernmental body. It is open to all member countries of the United Nations (UN) and WMO.

Currently 195 countries are members of the IPCC. Governments participate in the review process and the plenary Sessions, where main decisions about the IPCC work programme are taken and reports are accepted, adopted and approved. The IPCC Bureau Members, including the Chair, are also elected during the plenary Sessions.

Because of its scientific and intergovernmental nature, the IPCC embodies a unique opportunity to provide rigorous and balanced scientific information to decision makers. By endorsing the IPCC reports, governments acknowledge the authority of their scientific content. The work of the organization is therefore policy-relevant and yet policy-neutral, never policy-prescriptive.

The scientific evidence brought up by the first IPCC Assessment Report of 1990 underlined the importance of climate change as a challenge requiring international cooperation to tackle its consequences. It therefore played a decisive role in leading to the creation of the United Nations Framework Convention on Climate Change (UNFCCC), the key international treaty to reduce global warming and cope with the consequences of climate change.

Since then, the IPCC has delivered on a regular basis the most comprehensive scientific reports about climate change produced worldwide, the Assessment Reports. It has also responded to the need for information on scientific and technical matters from the UNFCCC, through Methodology Reports and Special Reports, and from governments and international organizations through Special Reports and Technical Papers. Methodology Reports serve as methodologies and guidelines to help Parties to the UNFCCC prepare their national greenhouse gas inventories.

The IPCC Second Assessment Report of 1995 provided important material drawn on by negotiators in the run-up to adoption of the Kyoto Protocol in 1997. The Third Assessment Report came out in 2001 and the Fourth in 2007.

The Fourth Assessment Report paid greater attention to the integration of climate change with sustainable development policies and relationships between mitigation and adaptation.

At the end of 2007 the IPCC was awarded the Nobel Peace Prize.

The participation of the scientific community in the work of the IPCC has grown greatly, in terms of the number of authors and contributors involved in writing and reviewing the reports, geographical distribution of authors, and the topics covered by the reports.

The IPCC completed the Fifth Assessment Report in 2014 (http://www.ipcc.ch/report/ar5/index.shtml).

The IPCC reports are of high scientific and technical standards, based on scientific evidence, and reflect a range and diversity of views, expertise, and geographical coverage within the scientific community. The comprehensiveness of the scientific content is achieved through contributions from experts in all regions of the world and all relevant disciplines including, where appropriately documented, industry literature and traditional practices. The IPCC multi-stage review by experts and governments ensures an objective, unbiased, transparent, and comprehensive assessment of current scientific and technical information. Because of its intergovernmental nature, the IPCC is able to provide scientific technical and socio-economic information to decision makers in a policy-relevant but policy-neutral way.

Recent Activities

The IPCC will finalize the Fifth Assessment Report (AR5) in 2014 (http://www.ipcc.ch/report/ar5/index.shtml) . Reports from AR5 Working Groups I (*Climate Change 2013: The Physical Science Basis)*, II (*Climate Change 2014: Impacts Adaptation and Vulnerability)*, and III (*ClimateChange 2014: Mitigation of Climate Change)*, were completed by April 2014. The AR5 *Synthesis Report* is due in October 2014.
The IPCC recently finalized two Methodology Reports: the *2013 Supplement to 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* (Wetlands Supplement) and the *2013 Revised Supplementary Methods and Good Practice Guidelines Arising from the Kyoto Protocol* (KP Supplement).

The AR5 will provide an update of the scientific, technical, and socio-economic knowledge of climate change. Compared with previous reports, the AR5 will put greater emphasis on assessing the socio-economic aspects of climate change and implications for sustainable development, risk management, and the framing of a response through both adaptation and mitigation. It will provide more detailed regional information, including on climate phenomena such as monsoons and El Nino. For the first time, ocean ecosystems will be a separate chapter in the AR. The key AR5 cross-cutting themes will be: Water and the Earth System: Changes, Impacts and Responses; Carbon Cycle including Ocean Acidification; Ice Sheets and Sea-Level Rise; Mitigation, Adaptation and Sustainable Development; and Article 2 of the United Nations Framework on Climate Change. The outline and content can be found on the IPCC web site (www.ipcc.ch).

The IPCC is in the final stages of preparation of the AR5, which is scheduled for publication in 2014. Its Lead Authors include many NOAA scientists, including at least one NMFS scientist. The AR5 will be comprised of four reports: the three IPCC WGs' contributions dealing respectively with "The Physical Science Basis", "Impacts, Adaptation and Vulnerability", and "Mitigation of Climate Change", and the Synthesis Report (SYR). Each report will contain its own Summary for Policymakers (SPM) that is approved in detail by all member countries of the IPCC and represents a formally agreed statement on key findings and uncertainties.

A summary of the history and products of the IPCC can be found at https://www.ipcc.ch/news_and_events/docs/factsheets/FS_timeline.pdf.

The IPCC's Fourth Assessment Report (AR4), including reports from each of the three WGs and a Synthesis Report, was published in 2007. The significant fisheries-related materials are included in the WG II Report – Climate Change 2007: Impacts, Adaptation, and Vulnerability. Based on the independent IAC review, the IPCC stands firmly behind the rigor and reliability of its AR4. The IAC review also provided additional guidance to AR5 authors on matters such as the use of literature in IPCC reports, the role of Review Editors and consideration of the range of scientific, technical and socio-economic views, as well as consistent treatment of uncertainties.

Scenarios of potential future anthropogenic climate change, the underlying driving forces, and the response options have been an important component of IPCC work. In 2006, the IPCC decided that the process of scenario development should be coordinated by the scientific community, and produce these new scenarios for possible use in its AR5. The ensuing set of "Representative Concentration Pathways" (RCPs) integrate socio-economic, emissions, and climate scenarios, and will result in the publication of new and integrated scenarios by allowing the modeling of climate system responses to human activities to proceed in parallel to emissions scenario development.

In addition to climate assessment reports, the IPCC publishes Special Reports on specific topics. In May 2011, the IPCC Special Report on *Renewable Energy Sources and Climate Change Mitigation (SRREN)* was published. The IPCC Special Report on *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)* was released in November 2011. The SREX Report assesses the evidence that climate change has led to changes in climate extremes and the extent to which policies to avoid, prepare for, respond to, and recover from the risks of disaster can reduce the impact of such events. These Special Reports also provide essential information for the AR5.

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